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Fig. 1

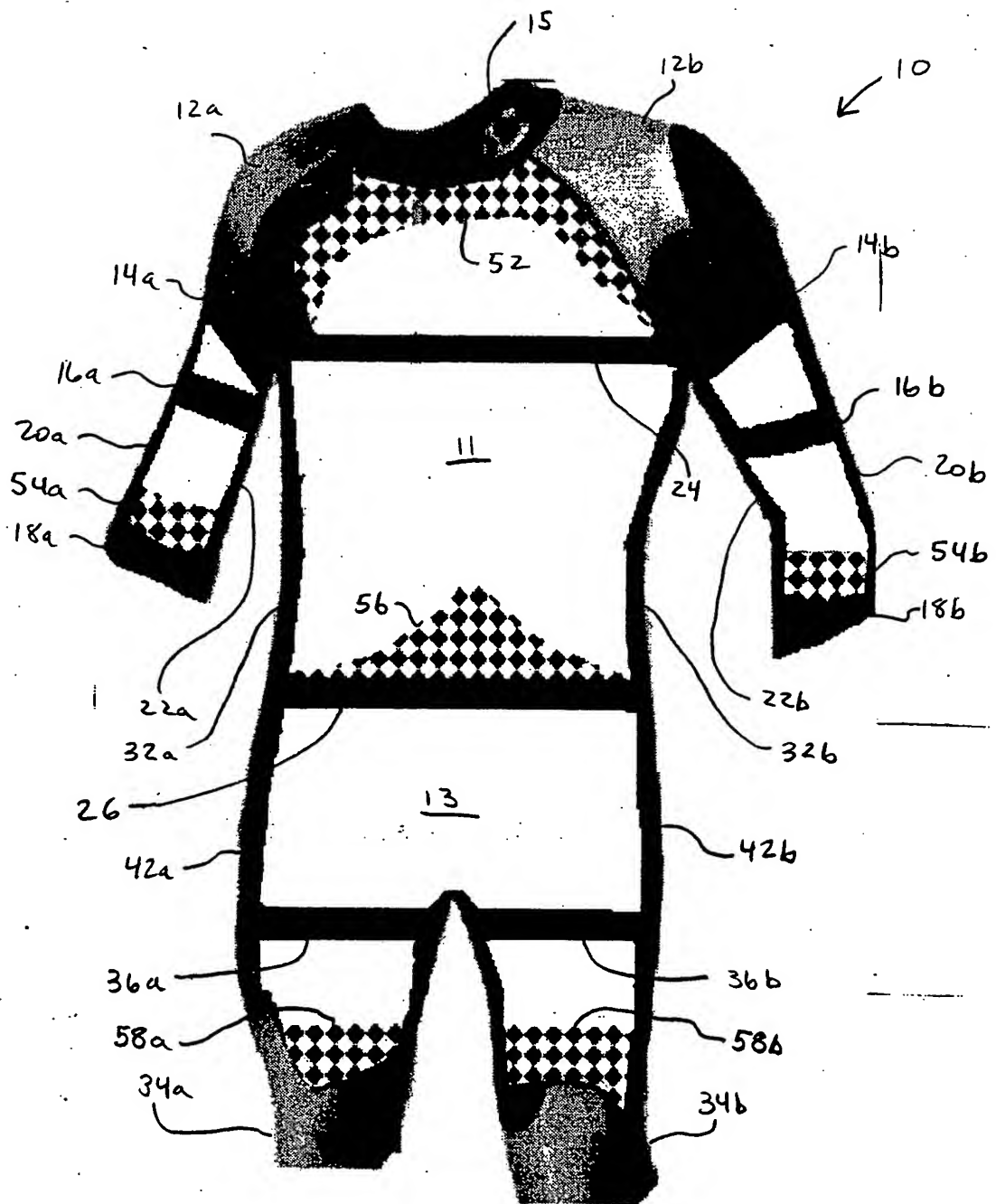
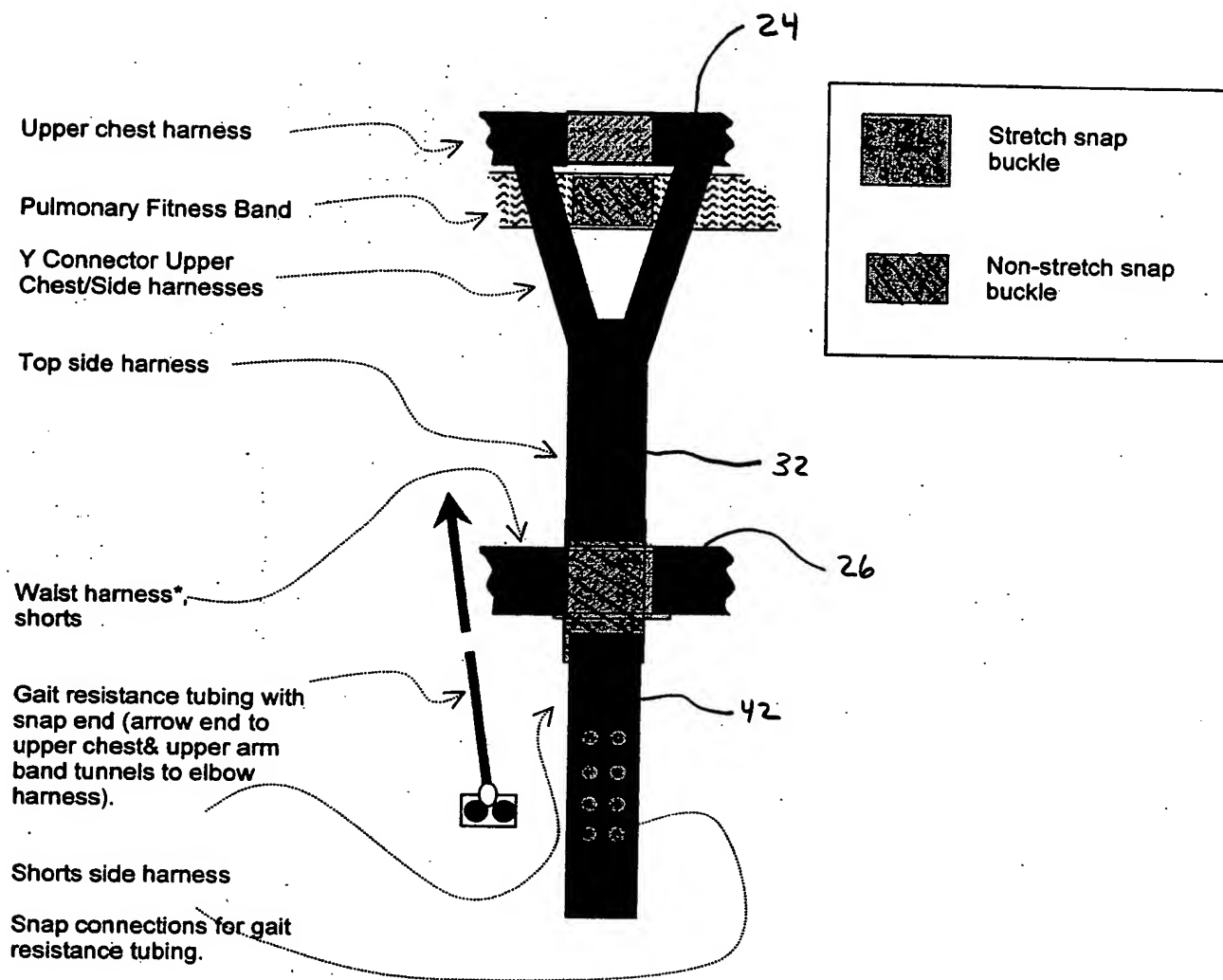


Fig. 2

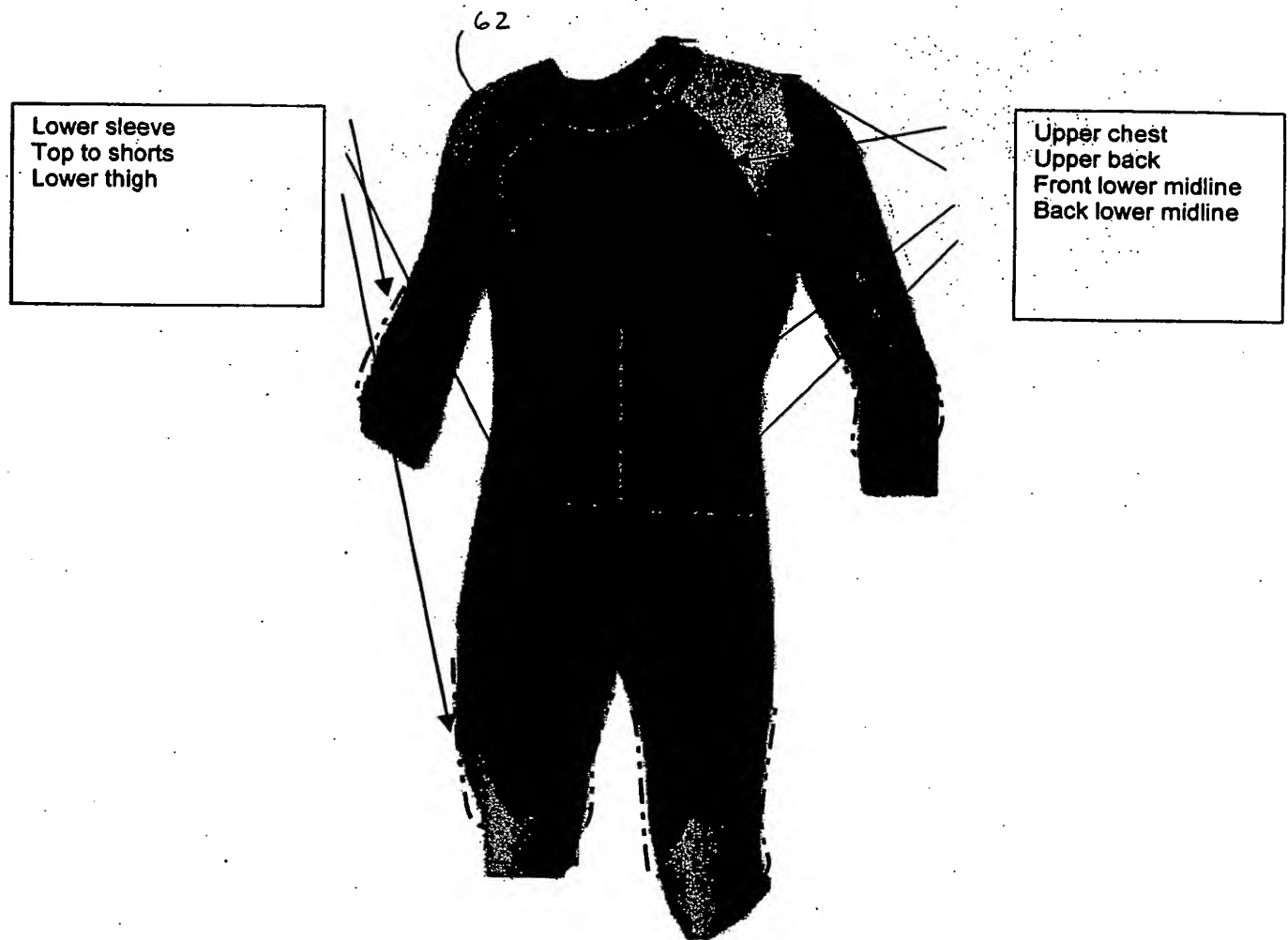
Schematic of Top, Shorts - Side View



* waist harness is a belt of harness material built into the waist of the shorts. There is no actual belt loop.

Fig. 3

Zippered Panels



A highly elastic mesh supports seams when unzipped to prevent total loose flopping of panels and allow for easier zipping and unzipping as well as comfort under zippered seams when panel is sealed.

Fig. 4

2 Front Unzipped

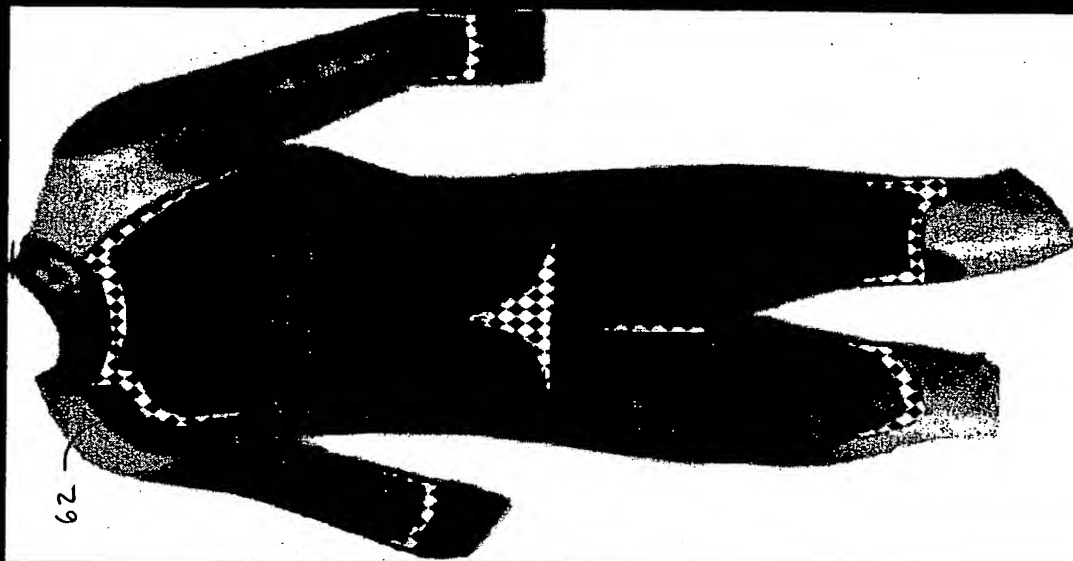


Fig. 5

3 Back Unzipped

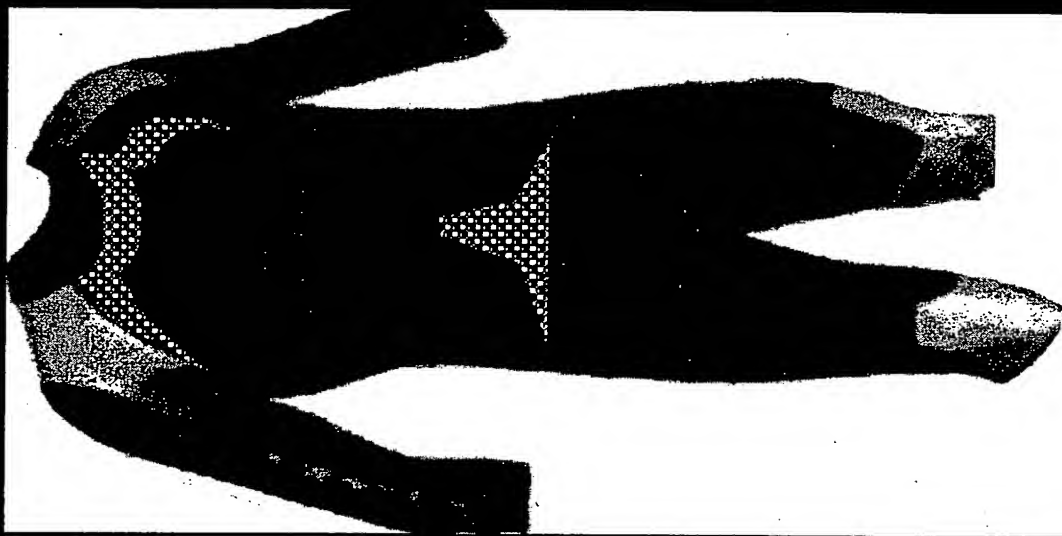
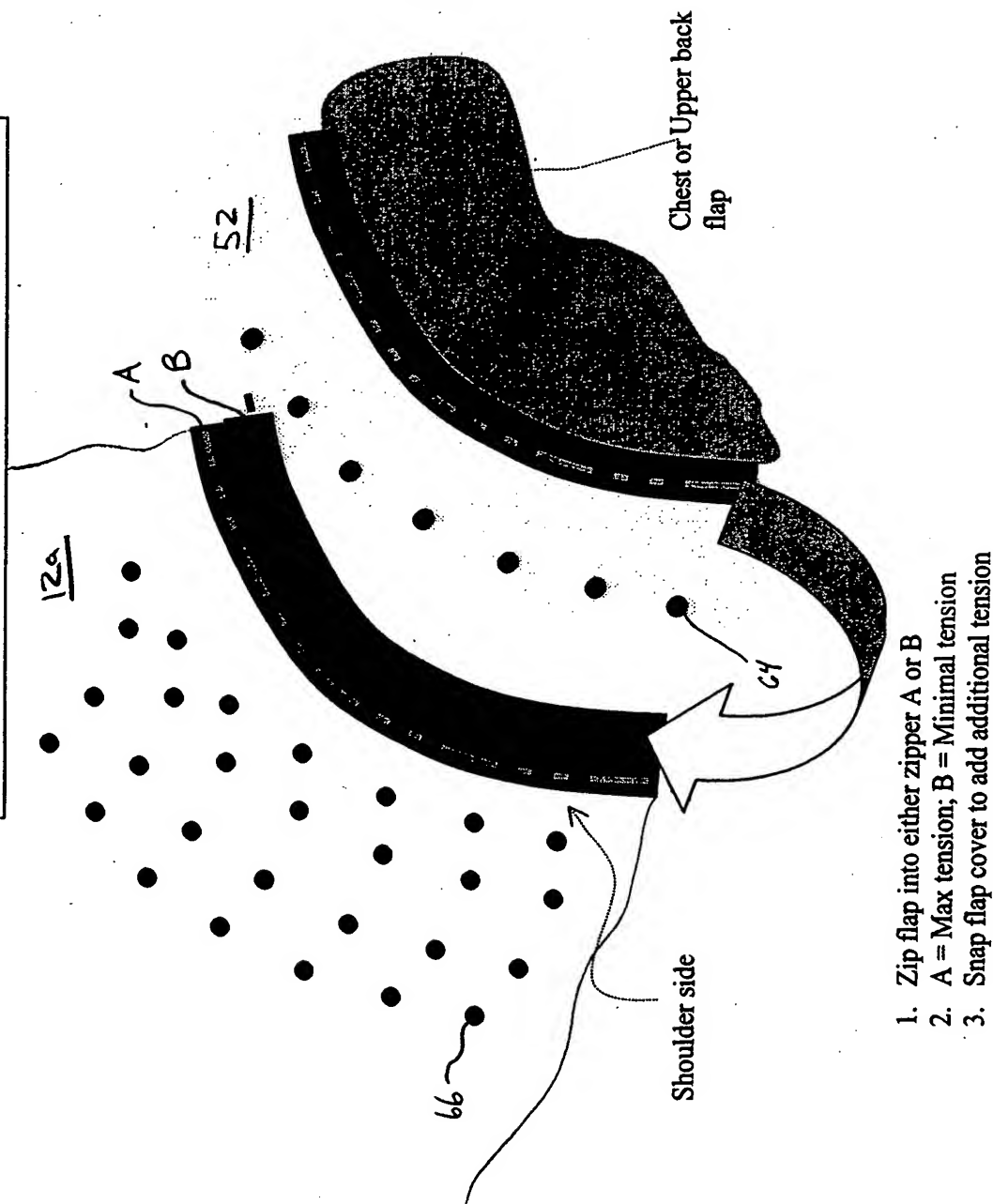


Fig. 6

Zippering Option For Upper Outer Chest or Back at Shoulder
(Used on Both Sides of Upper Chest & Possibly Upper Back)*

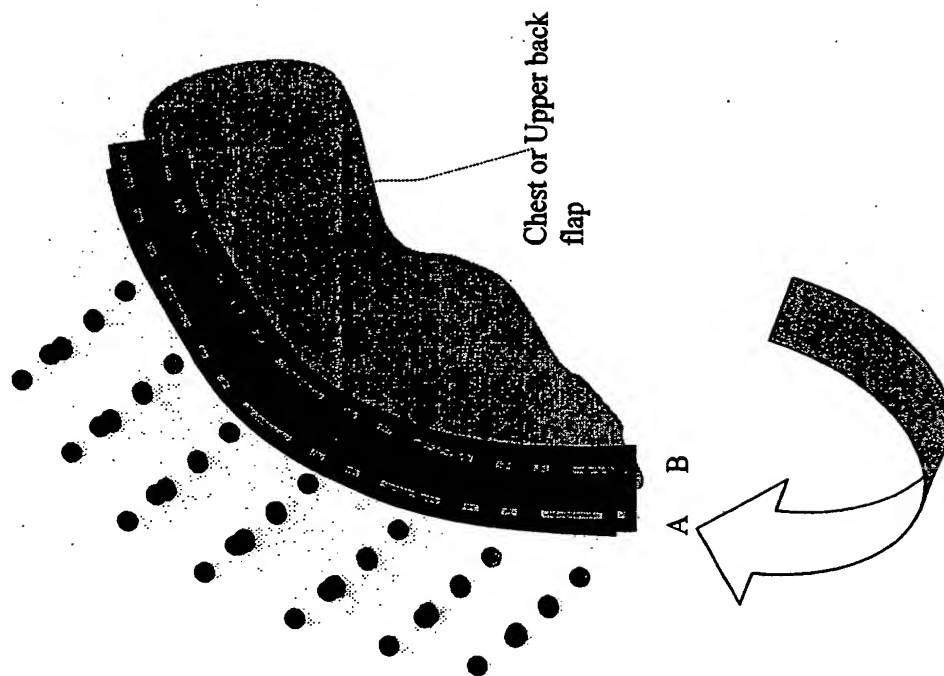


1. Zip flap into either zipper A or B
2. A = Max tension; B = Minimal tension
3. Snap flap cover to add additional tension

Double zipper gives easy means to increase tension on upper chest and lower it on upper back and vice versa; can share some of same snaps for that reason:

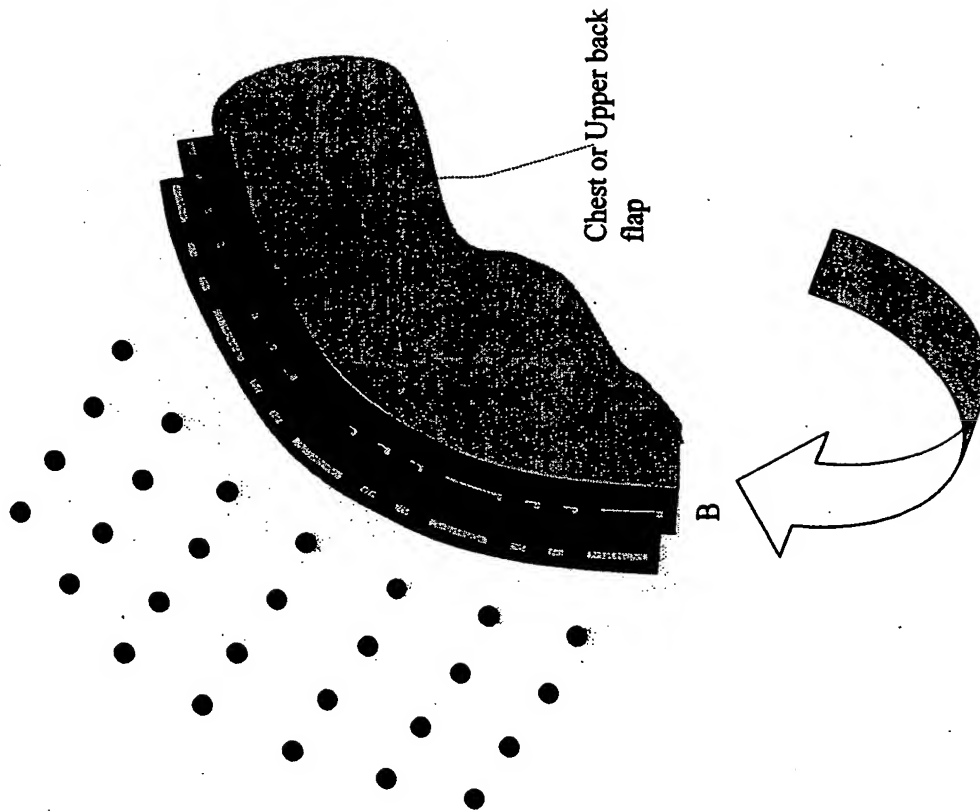
Since upper back and upper chest tension should be opposite; on days chest tension hi upper back tension low and vice versa; therefore a series of snaps going from chest towards back can be "shared".

Fig. 7



Zip into A for max tension option and snap into one of several higher tension options

Fig. 8



Zip flap into Zipper B for min tension & Snap Into Less Tension Snap Option

* Because its easier to zip the chest panels this double zipper option is only offered on the front in the preferred embodiment; the back is snapped for less tension; and zipped (single zipper) and snapped tighter for max tension in preferred embodiment – though double zipper option could be made to work in back also.

Fig: 9

Compression / Resistance Bands

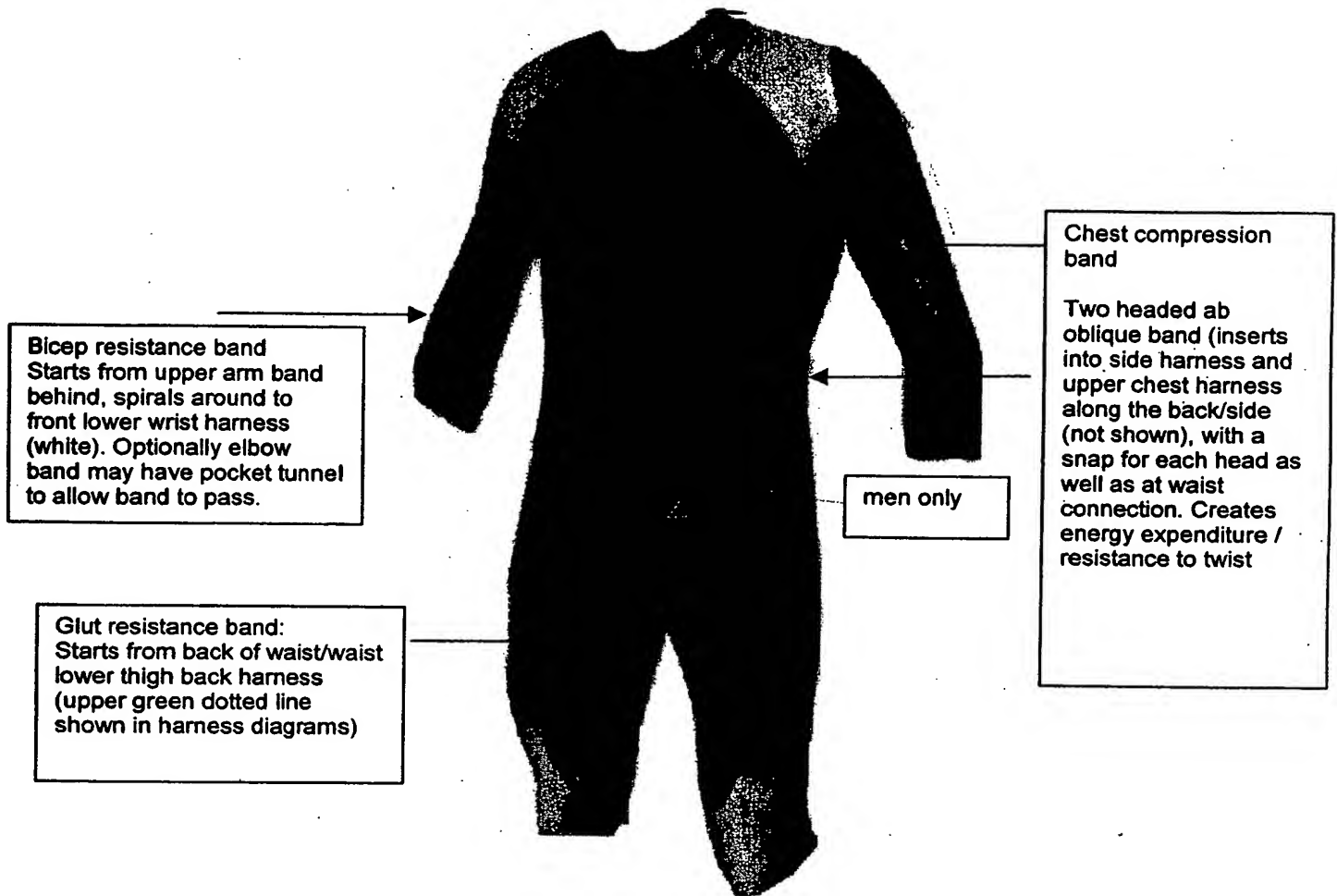


Fig. 10

Other Options

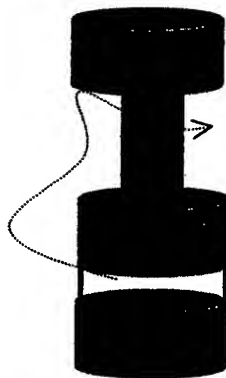
Optional gait resistance attachment tubing (for both sides, only L side shown):

1. Because bipedal gait is leg forward & arm backward; then vice versa, attachment band along side through tunnels at chest band and upper arm band creates a stretch along the arm pit space with gait.
2. Adds considerable energy expenditure, and easy to insert.
3. At thigh end the resistance tubing has a ring attachment to a snap that can be placed along any of a series of snap pairs along the lower thigh side harness to adjust fit for various heights as well as to achieve desired tension.



To allow tricep or quads to benefit from resistance training:

1. Optional resistance bands with connecting snaps can be provided allowing a band to connect exact opposite of bicep band.
2. In this case the tricep band would be snapped in place at both the lower wrist (white) harness band and upper arm harness band.
3. An attached strap would allow adjustment of tension.
4. In this case the bicep band would NOT be snapped to added tension for optimal effect – best if muscle group is unopposed.
5. Similarly for quad effect – placement on back of lower thigh spiraling around to connection along front of shorts.

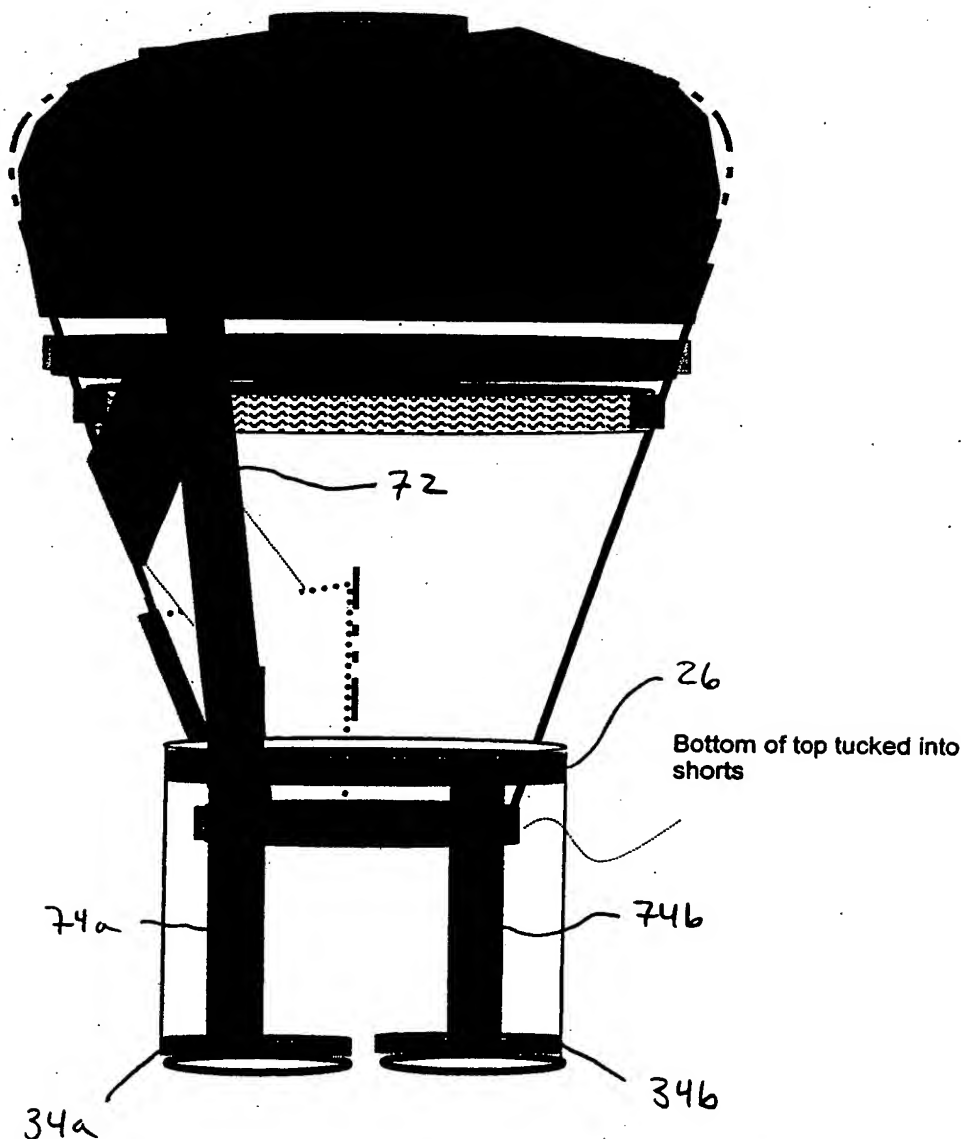


Lower quad/hamstring optional attachment.

Connect paired harness band shown to lower leg, upper harness to midthigh as well as side harness band. Placement of resistance band on front vs. back to alternate lower quad and hamstring resistance.

Fig 11

**Schematic of Back
(would have same cosmetics as front)**



Schematic of back, primarily showing L side. Attachments from front for ~~the front~~ into side harness and side of upper chest harness shown. Zippered midline is optional. The shorts attach above the bottom shirt harness, which simply serves to help snug the bottom of the shirt from pulling up. Shorts zip in the front and connect via snap to the back stabilizer band in the back. The snap connects on the harness support connecting from the back of the lower thigh band to the waist harness.

Fig. 12

5 Back Zipped & Snapped

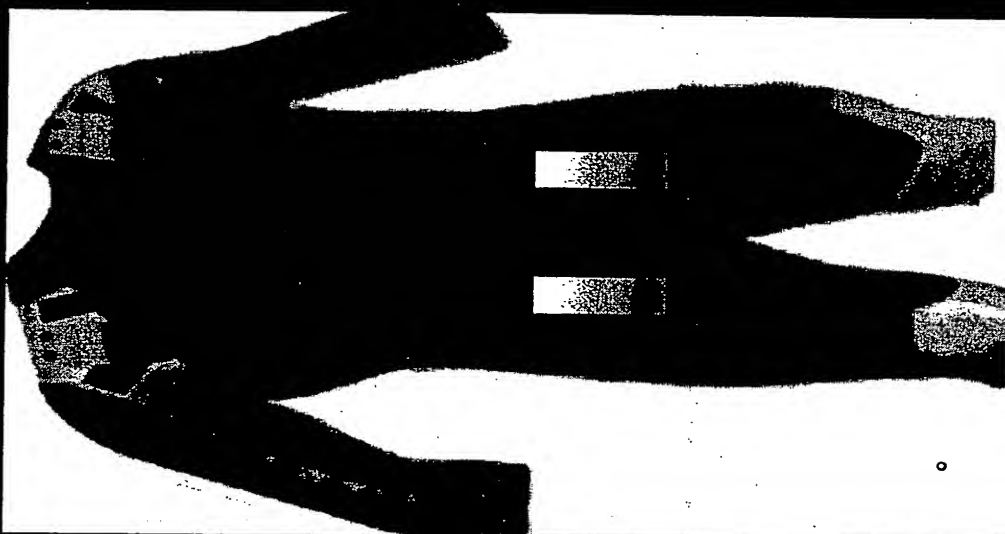
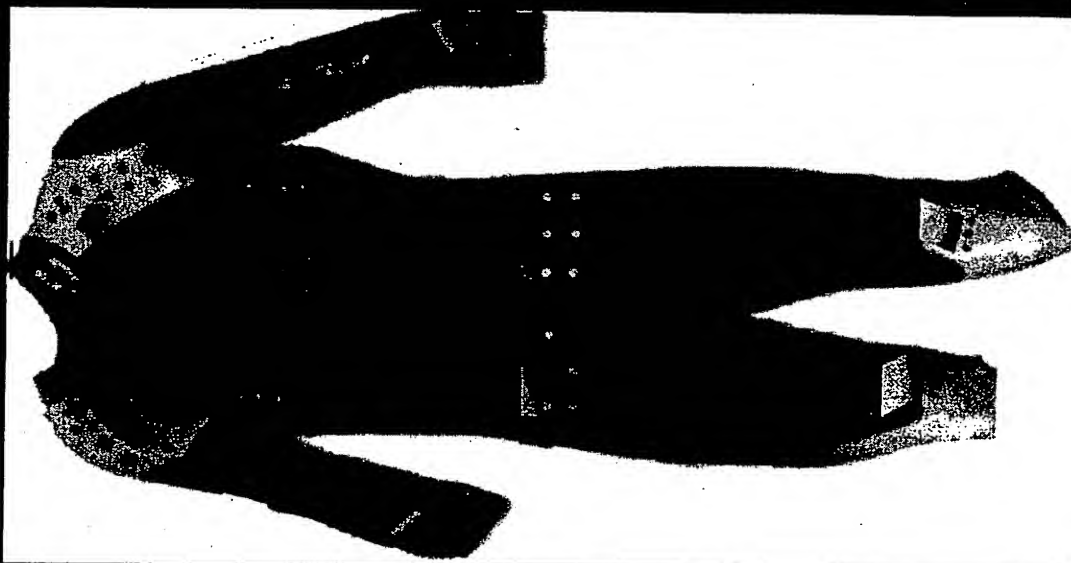


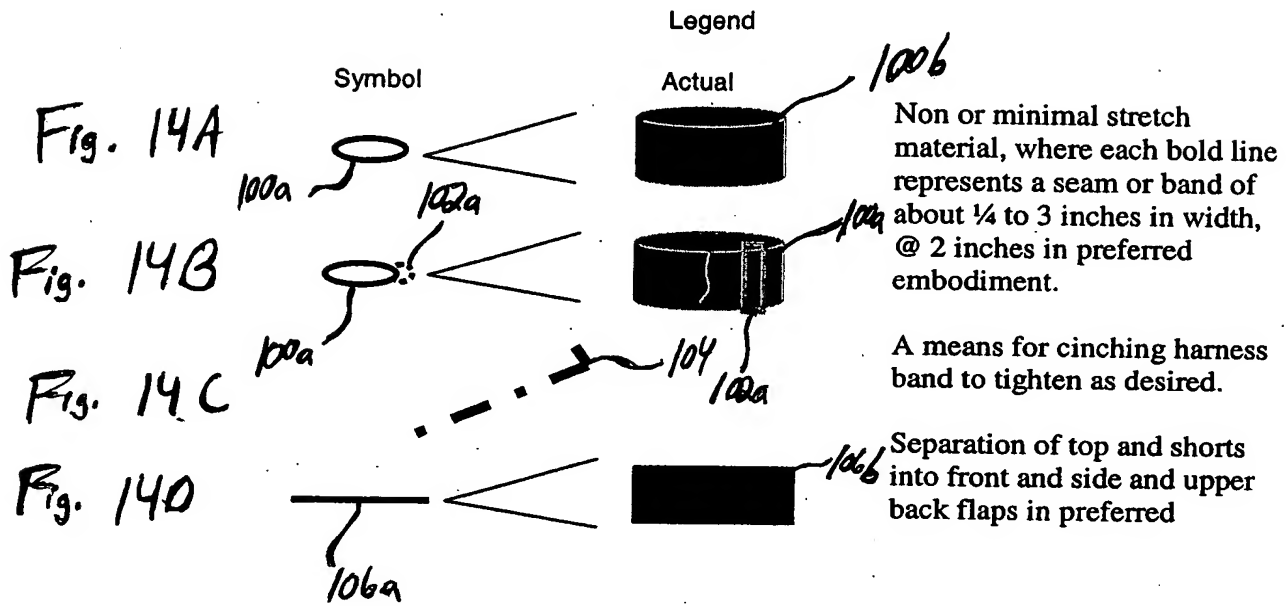
Fig. 13.

4 Front Zipped & Snapped



Alternative Embodiments and Additional Information

I Harness System



Harness materials in solid black on schematic below of preferred embodiment:

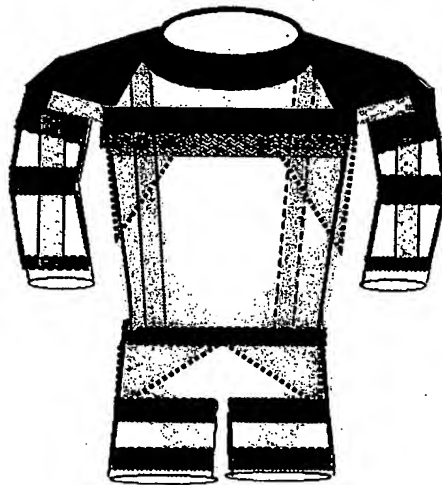


Fig. 15

← 108

Fig. 16A

Front

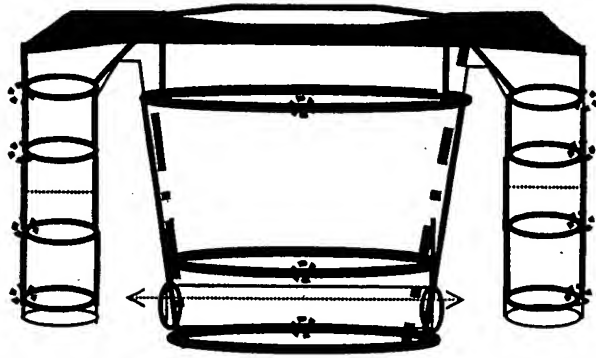
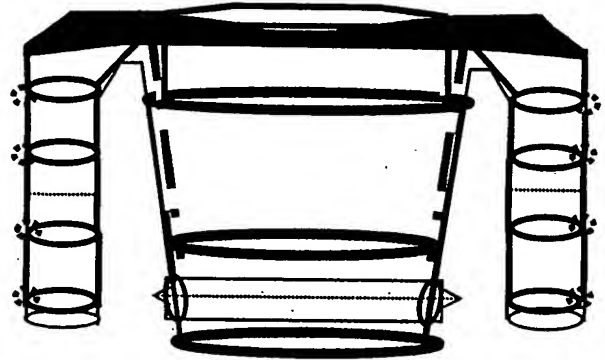
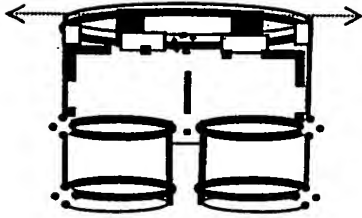


Fig. 16B

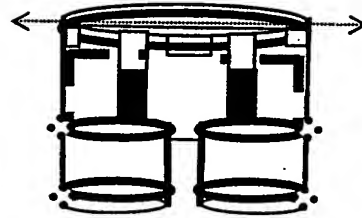
Back



110



112

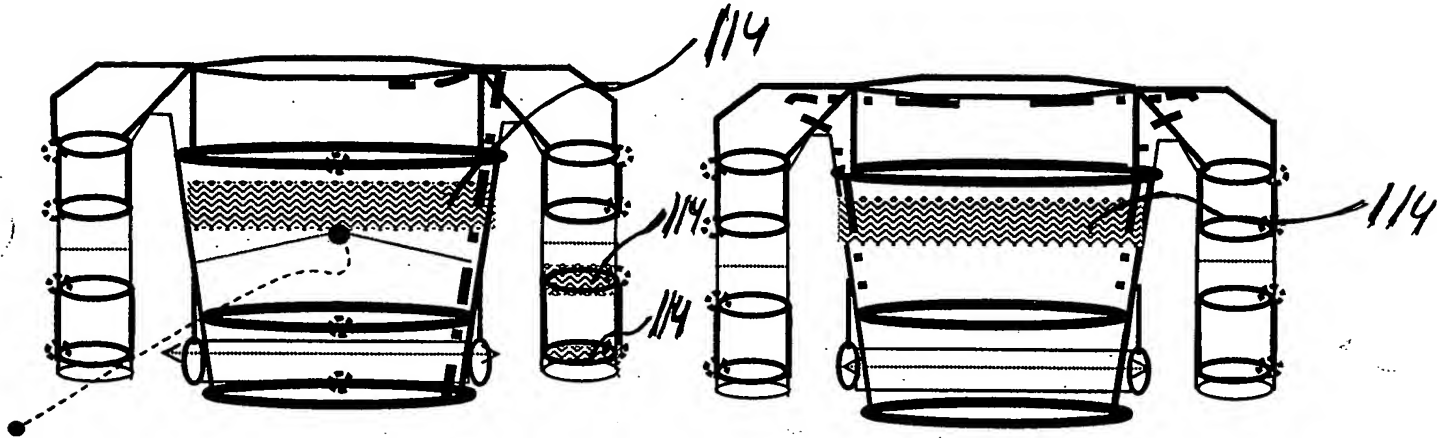


II Chest Compression Band

Fig. 17A

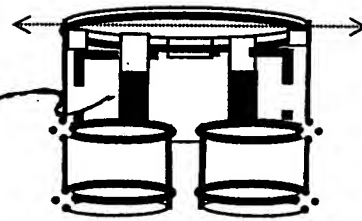
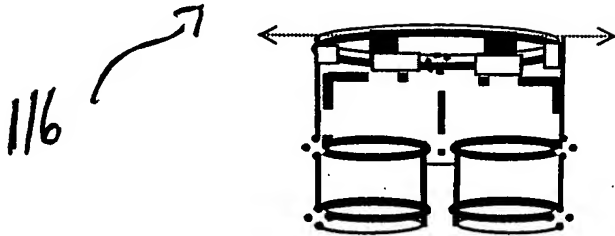


Fig. 17B



Gray demarcates sternum
(dot) and lower rib cage

The harness system
on back of shorts
provides support
against the back
stabilizer bands
that will connect to
the waist band
harness and
otherwise would



The waist band is held in place by a zippered seam from front around back to other side of front; or alternatively may use reinforced wide loops, either presewn or snapped into place after belt is positioned. The belt also via loop or j snap affixes harness components and resistance material from the upper shirt portion.

III Back Stabilizer Bands

Fig 18A

Back stabilizer bands – embodiment shown to the right; alternatively either of the horizontal chest harness bands could be used as the upper point of attachment; also alternatively stretch tubing (shown below) can be hooked onto harness where the harness also has appropriately placed attached hooks (not shown). Bands could cross in an X fashion with similar effect.

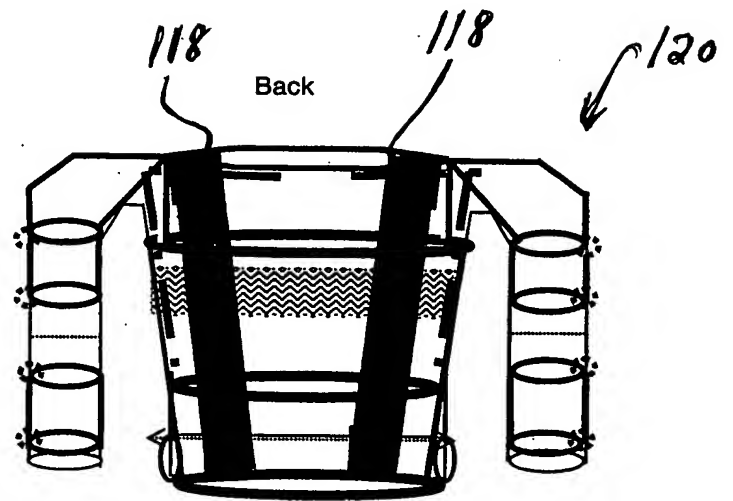
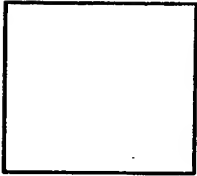
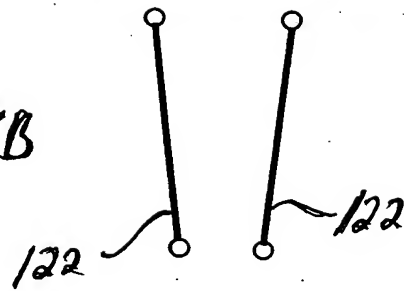
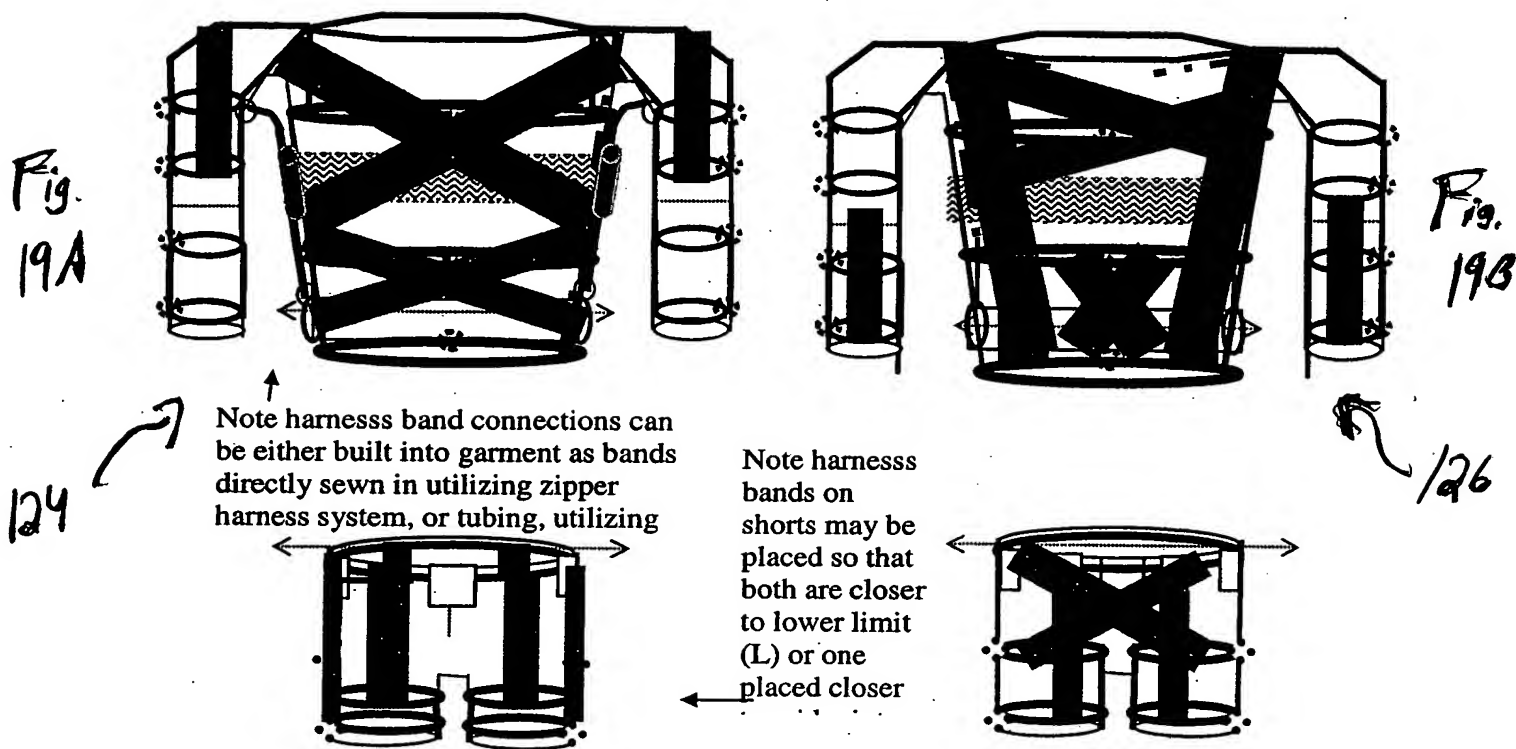


Fig. 18B



IV Resistance Band - Harness - Zipper - Flap Connections of Preferred Embodiment Provide Single Sheets that Replace X Patterns Shown Below

Preferred embodiment of torso has upper chest and back resistive panels, as well as R,L oblique resistive panels connecting to waist, side harness, and back of chest harness on each side. Arms have resistive material putting tension on bicep; legs on gluteus as well as hamstrings. The drawings below are for illustrative purposes demonstrating the resistive connections of the invention.



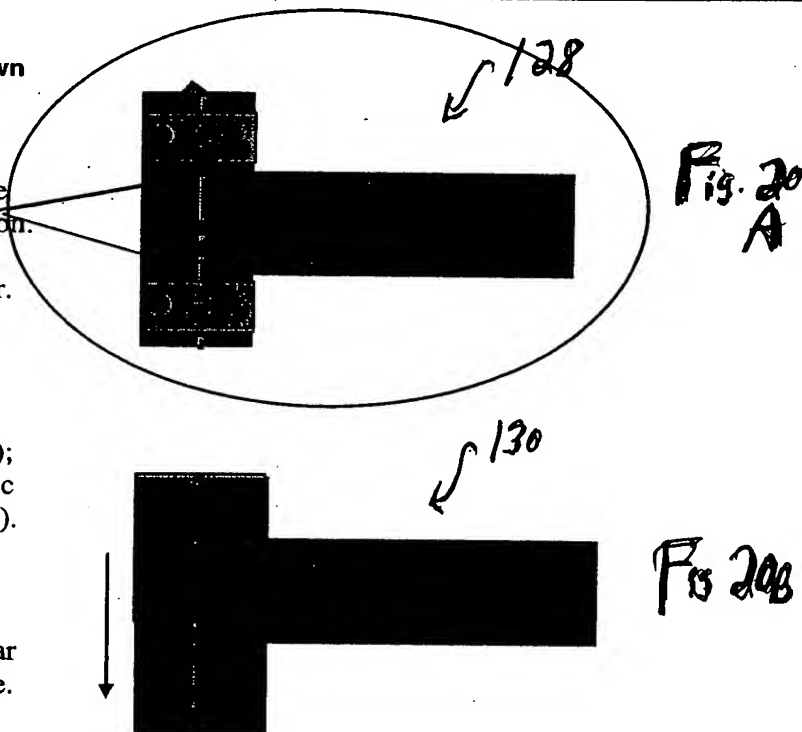
Harness - resistance band - zipper junctions shown above: Magnified view:

These junctions simplify manufacture as well as ease of entering and removing body suit. A double zipper offers added tension adjustment or relaxation.

Harness material extends onto both sides of zipper. Resistance band is fixed onto harness via sewn seam, glue, Velcro or other means of fixation.

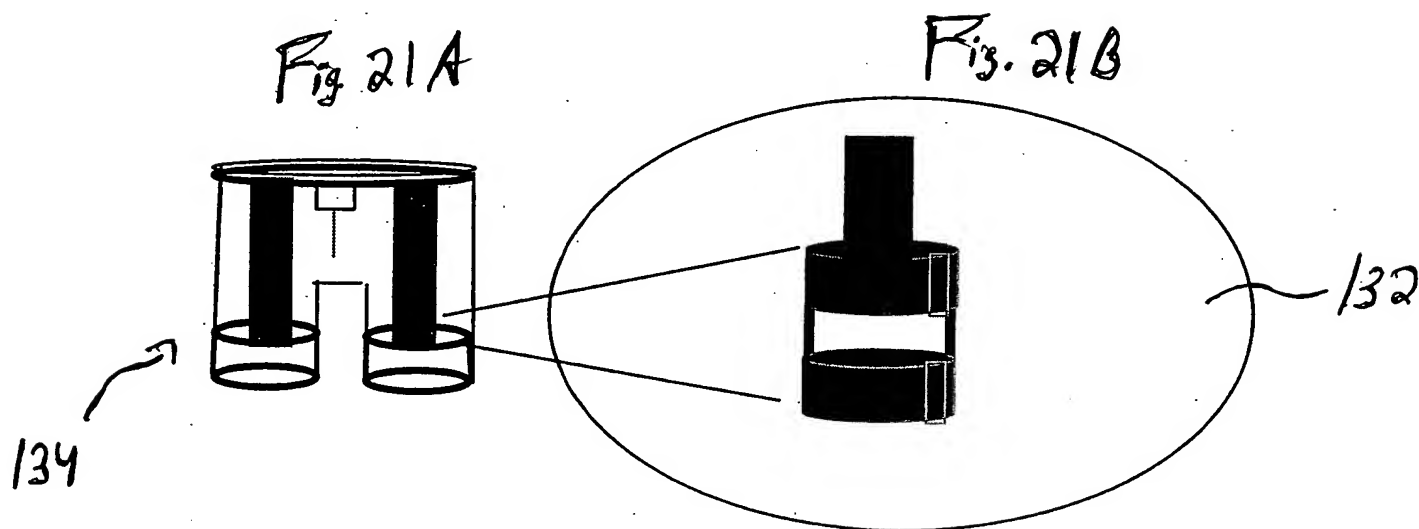
To further strengthen the connection buckles or snaps may be secured after the flap is zippered (R); or a second zipper with optionally reinforced fabric is secured to further strengthen the seam (below R).

Preferred embodiment is sized as eg S M L XL XXL; with a low resistance, moderate resistance, high resistance, extreme resistance options for wear and no further adjustment while worn of resistance.



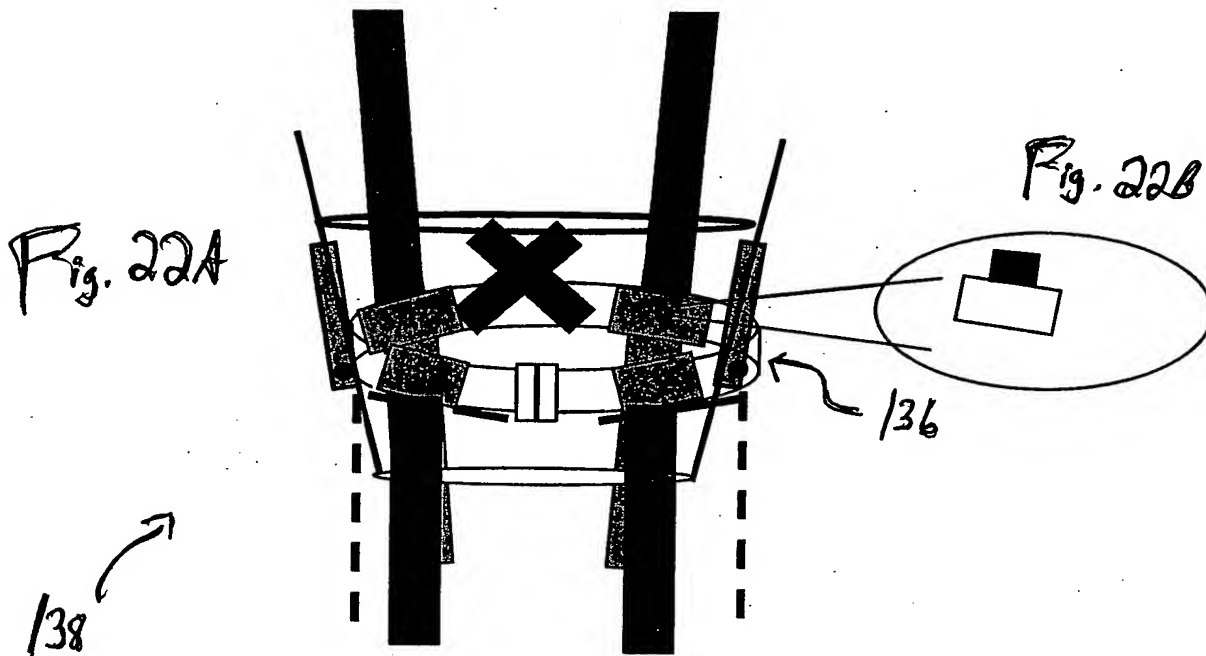
Both the sleeve end and lower short end take advantage of fixation properties unique to the harness system. By using a double harness at the $\frac{3}{4}$ sleeve end and the end of the thigh, with attachment to the upper of the two harnesses a more stable fixation is achieved. The lower harness in each case helps to anchor the harness just above it against the upward pull of the resistance material – whether it be tubing or band.

Each harness band achieves a slight tissue compression, connected to each other by non-stretch harness material shown in the preferred embodiment



Belt – Waistband Attachment Options

A preferred embodiment zippers along lower $\frac{1}{2}$ midline of top front and lower $\frac{1}{3}$ of top back; and then uses a zippered seam connecting from the front around the back and to the other side of the front.. Other options:



Once panels are zipped in preferred embodiment snaps offer increased tension at either end of the back stabilizer band, and at at least one end for all other resistive panels. There are multiple options for connecting upper torso components such as back stabilizer bands and oblique lower back bands and side harness seams to the lower torso shorts.

Belt loops that are robust, with connecting loops above and or below simplify attachment of optional stretch tubing; allow for snap connections of back stabilizer bands or other similar attachments adding a snap option adjustability.

Side connection of harness seams to the waist band can be accomplished through a belt loop connection, snap, Velcro or other similar means of attachment.

Support along the back of the shorts below the waistband connected to a pair of harness bands on one end and secure connection just below the point where the back stabilizer bands connect to the waistband further secures this important junction. To the right above a snap junction connection from a belt loop to a back stabilizer band is shown. shown.